

DESCRIPTIONS AND RECORDS OF SOUTH AMERICAN ORTHOPTERA, WITH
THE DESCRIPTION OF A NEW SUBSPECIES FROM CLARION ISLAND.

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In the following pages are contained the descriptions of one new genus, nine new species and one new subspecies, from localities extending from Panama and Surinam south to southern Brazil and from Clarion Island in the Pacific Ocean, off Lower California. Much information concerning the variation of certain species and data on the range of others, accumulated from a number of sources, is here presented for the first time.

By far the greater part of the material here treated is contained in the Hebard Collection, all of the new species being from that series, while a number of interesting forms are from the collection of the United States National Museum. My thanks are due to Mr. Hebard and the authorities of the National Museum for the privilege of studying the material.

ACRYDIINÆ (*Tettiginae* Auct.).

EOMORPHOPUS Hancock.

1906. *Eomorphopus* Hancock, Tetriginæ; Genera Insectorum, pp. 31 and 37.

Type as specified, *Amorphopus antennatus* Bolivar.

Eomorphopus granulatus Hancock.

1906. *Eomorphopus granulatus* Hancock, Tetriginæ; Genera Insectorum, p. 38, pl. 4, figs. 35-35a. [Dutch Guiana.]

Surinam. [Hebard Coll.] One ♀.

EUMASTACINÆ.

PARAMASTAX Burr.

Paramastax nigra (Scudder).

1875. *Mastax nigra* Scudder, Proc. Boston Soc. Nat. Hist., XVII, p. 266. [Eastern slope of the Peruvian Andes.]

Yungas de la Paz, Bolivia, 1,000 meters elevation. [Hebard Coll.] One ♂.

This specimen is considerably smaller than the measurements given by Scudder and appreciably smaller than those given by Burr,¹ but otherwise it is typical of *nigra*. The difference in size may be

¹ *Anal. Soc. Españ. Hist. Nat.*, XXVIII, p. 270.

due to the fact that the specimen in hand is from the most southern section of the known range of the species.

The fact that the ventral portion of the lateral lobes of the pronotum is orange-red seems to have been overlooked by previous writers.

Measurements.

Length of body.....	16.5 ² mm.
Length of pronotum.....	2.3 "
Length of tegmen.....	13.5 "
Length of caudal femur.....	13 "

ACRIDINÆ (*Truxalinæ* Auct.).

ORPHULA Stål.

Orphula pagana minor (Giglio-Tos).

Yungas de la Paz, Bolivia, 1,000 meters elevation. [Hebard Collection.] One ♂.

This is the most westerly locality known for the form.

ORPHULINA Giglio-Tos.

Orphulina veteratoria Rehn.

1906. *Orphulina veteratoria* Rehn, Proc. Acad. Nat. Sci. Phila., 1906, p. 21, figs. 5 and 6. [São Paulo, Brazil.]

Espirito Santo, Brazil. [Hebard Collection.] One ♂.

This specimen differs from the type in a few details, as the exact curve of the lateral pronotal carinæ and the degree of constriction of the frontal costa dorsad and ventrad of the ocellus, but the differences appear to be purely individual.

FENESTRA Giglio-Tos.

Fenestra ensicorne n. sp.

Type: ♂; Espirito Santo, Brazil. [Hebard Collection.]

Allied to *F. bohlsii* Giglio-Tos, but differing in the more ascending head, the more angulate character of the fastigium when viewed from the lateral aspect, the more compressed and more deeply sulcate frontal costa and the much less depressed antennæ (except at the apex).

Size medium; form distinctly compressed. Head with the occiput distinctly ascending; interspace between the eyes equal to the fastigium in width, the latter trigonal, acute-angulate, the margins distinctly elevated and the occiput, vertex and fastigium provided with a continuous median carina, which is stronger on the fastigium than elsewhere; lateral foveolæ strongly linear, expanding

² The abdomen is unnaturally compressed and in consequence the length is greater than should be the case.

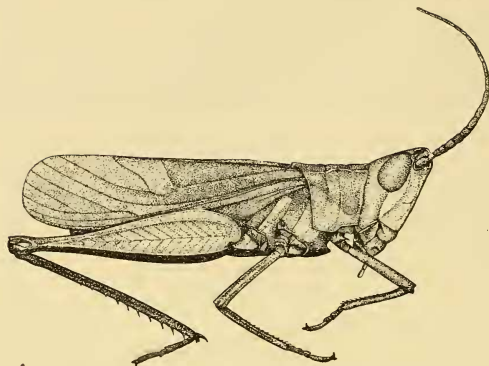


Fig. 1.—*Fenestra ensicorne* n. sp. Lateral view of type. ($\times 3$.)

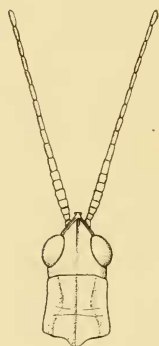


Fig. 2.—*Fenestra ensicorne* n. sp. Dorsal view of head and pronotum. ($\times 3$.)

somewhat caudad; face considerably retreating, the angle of the face and fastigium truncate; frontal costa slightly expanded between the antennæ, regularly expanding from slightly dorsad of the ocellus to the clypeal suture, deeply punctate between the antennæ, sulcate ventrad, the portion dorsad of the ocellus quite deeply so; lateral carinæ of the face distinct, considerably diverging ventrad; eyes subovate, slightly angulate dorsad and ventrad, moderately prominent when viewed from the dorsum; antennæ half again as long as the head and pronotum together, proximal third with the joints distinctly depressed and somewhat ensiform in appearance, distal segment depressed, hastate, remaining joints simple, cylindrical. Pronotum somewhat longer than the dorsal length of the head; disk very slightly tectate, cephalic margin subtruncate, caudal margin obtuse-angulate with the sides of the angle roundly emarginate; median carina distinct, moderately elevated, divided very slightly caudad of the middle, lateral angles of the pronotum not carinate except for limited areas in the vicinity of the cephalic and caudal margins, the form of the lateral angles, as indicated by imperfect carinæ, is similar to that of *F. bohlsi*, being distinctly constricted cephalad of the middle; lateral lobes of the

pronotum subquadrate, the ventrad margin strongly sinuate cephalad. Tegmina very slightly exceeding the tips of the caudal femora, inflated, the greatest breadth contained about three and a half times in the length; costal margin with a moderate proximal expansion, apex subobliquely rotundato-truncate; mediastine vein strongly developed, no intercalary vein present. Interspace between the mesosternal lobes very slightly transverse, the angles of the lobes obtuse; metasternal lobes separated by a narrow longitudinal space. Abdomen moderately compressed; supra-anal plate rounded trigonal; subgenital plate compressed, particularly dorsad, moderately acute; cerci simple, terete. Caudal femora slightly less than twice the length of the head and pronotum together, moderately robust, paginæ with well-marked scalariform pattern; caudal tibiæ bearing ten spines on the external margin, eleven on the internal margin.

General color of the dorsum olive, the tegmina with a tendency toward burnt umber mesad. Face and clypeus apple-green, labrum whitish; eyes raw umber; antennæ burnt umber, clove-brown on the terminal segment. Genæ and lateral lobes of the pronotum drab, paler ventrad; pleura pale greenish and umber; ventral surface of the thorax and proximal portion of abdomen shining black, remainder of abdomen vandyke brown with obscure longitudinal bars of blackish-brown disposed as a pair of laterals and another of ventrals, the two parallel ventral bars separated by a very narrow median paler line. Wings with the base chinese orange. Limbs very pale olive-green, the caudal femora with some weak buff-yellow dorsad and proximad, the genicular region and both ventral faces blue-black, the internal face blue-blackish with several very narrow pale olive-green bars; caudal tibiæ very dark olive-green with a pale olive-green pregeniculate annulus, spines black-tipped.

Measurements.

Length of body.....	20	mm.
Length of pronotum.....	4	"
Greatest caudal width of disk of pronotum.....	2.7	"
Length of tegmen.....	15.8	"
Length of caudal femur.....	12.5	"

The type is unique.

EDIPODINÆ.

LACTISTA Stål.

Lactista pulchripennis Saussure.

1884. [*Lactista pulchripennis* Saussure, *Prodromus Edipodiorum*, p. 143.
[Colombia; Porto Cabello, Venezuela.]

Surinam. [U. S. N. M.] One ♂.

This species has previously been recorded only from Caché, Costa

Rica, Colombia (without exact locality), Bonda, Colombia, and Puerto Cabello, Venezuela.

PYRGOMORPHINÆ.

OMURA Walker.

Omura congrua Walker.

Surinam. May–September. [Hebard Coll.] One ♀.

Obidos, Amazon River, State of Pará, Brazil. [Hebard Coll.] One ♂.

SPATHALIUM Bolivar.

Spathalium paranense n. sp.

Type: ♀; Paraná, Brazil. [Hebard Collection.]

Allied to *S. sommeri* Burmeister and *S. hispidum* Bruner, but differing from both in the undivided and narrower medio-caudal tubercle of the pronotum, from the former also in the shorter tegmina and wings, and from the latter in the less expanded pronotum and the more depressed condition of the tubercles, both marginal and discal, of the pronotum.

Size rather large; form similar to that of the other strongly tuberculate species of the genus; surface rugose and carinate. Head well set into the pronotum; interocular area slightly more than one and a half times as wide as the greatest diameter of the eye and provided with three transverse carinæ, all interrupted several times and the median hardly apparent mesad; frontal costa very narrow, subangulately produced between the antennal bases, sulcate throughout and expanded ventrad of the ocellus into an hour-glass-shaped structure; when viewed from the lateral aspect the face has several undulations ventrad of the interantennal

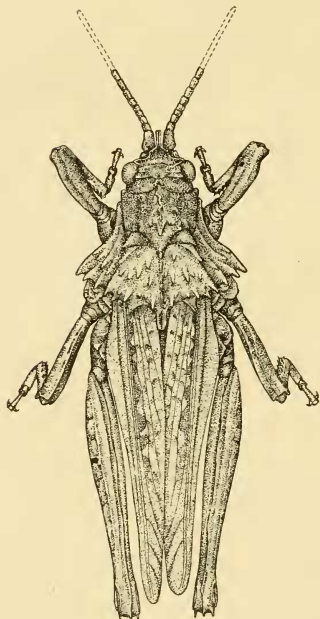


Fig. 3.—*Spathalium paranense* n. sp. Dorsal view of type. ($\times 2\frac{1}{2}$.)

protuberance; eyes ovate, rather prominent; antennæ depressed;

genæ with several low tuberculate swellings. Pronotum of the peculiar type found in the allied species, the median carina of the prozona cristate, inflated caudad, caudal margin of the metazona with five principal and six minor projections; prozonal crest moderately high, eroso-serrate, projecting over the metazona and inflated caudad; cephalic margin very obtuse-angulate mesad; median tubercle of the caudal margin rather narrow and undivided; median carina of the metazona regular, about equal to the rather depressed discal tubercles in height; lateral angles of the metazona projecting laterad of the dorsal portion of the lateral lobes a considerable distance, the greatest width of the pronotum, *i.e.*, between these angles, is slightly greater than the length

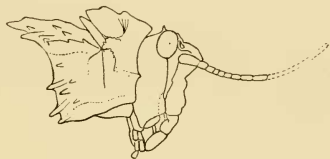


Fig. 4.—*Spathalium paronense* n. sp.
Lateral outline of head and pronotum.
($\times 2\frac{1}{2}$.)

from the cephalic margin along the median line to the caudal margin exclusive of the projections; lateral lobes of the pronotum longer than deep, ventral margin sinuate cephalad, ventro-caudal angle rectangulate, caudal margin with three projecting tubercles, diverted lateral carinæ of the prozona strongly marked. Tegmina about two and one-half times the greatest absolute length of the pronotum; apical margin acute-angulate with the immediate apex rounded. Wings about four-fifths the length of the tegmina. Prosternal ridge lamellate, arcuate with the concavity cephalad, the greatest depth mesad. Interspace between the mesosternal and metasternal lobes very strongly transverse. Caudal femora slightly more than four-fifths the length of the tegmina, the genicular lobes and the medio-genicular process acute, medio-dorsal carina with three low rounded lobes, ventro-lateral carina distinctly but not greatly produced; caudal tibiæ with eight spines on the lateral margins, ten on the internal margins.

General colors cinnamon, wood-brown, and seal-brown, marbled and mingled together, lined, streaked and washed one on the other. Head with the face darker than the vertex, fastigium and genæ, the carinæ of the same region lined with seal-brown; eyes raw umber; antennæ vandyke brown edged with cinnamon. Pronotum with the disk and lateral lobes of the prozona with seal-brown predominating, crest dirty wood-brown;

disk of the metazona nearly all cinnamon, darker at the margins and lined with seal-brown mesad; lateral lobes of the metazona seal-brown between the principal ridges. Tegmina pale walnut-brown, with a medio-longitudinal series of small dark blotches, the sutural margins suffused and the whole surface distinctly marbled with shades of brown. Limbs dirty wood-brown, the spines on the caudal femora very narrowly and weakly tipped with black.

Measurements.

Length of body.....	30	mm.
Length of pronotum.....	9.5	"
Greatest caudal width of disk of pronotum.....	8.2	"
Length of tegmen.....	22	"
Length of caudal femur.....	16.8	"

The type is the only specimen of the species examined.

LOCUSTINÆ.

DIEDRONOTUS Bolivar.

Diedronotus rosulentus (Stål).

1878. *T[rapidonotus] rosulentus* Stål, Bihang till K. Svenska Vet.-Akad. Handl., V, No. 9, p. 19. [New Grenada.]

Surinam. [U. S. N. M.] Two ♂.

These specimens have the tegmina with the transverse fuscous clouds very distinct proximad, becoming weak distad and extending across the tegmina except for the anal area. The rosy suffusion of the costal section of the wing is weaker than on the disk, being only a coloration of the veins on a fuscous ground.

Brunner has recorded this species from near Guayaquil, Ecuador.

CHROMACRIS Walker.

Chromacris peruviana (Pictet and Saussure).

1887. *R[homalea] peruviana* Pictet and Saussure, Mittheil. Schweiz. Ent. Gesell., VII, p. 352. [Peru.]

Piches and Perene Valleys, Peru, 2,000-3,000 feet. (Soc. Geog. de Lima.) [U. S. N. M.] 1 ♂, 1 ♀.

The size of the female of this species is very considerable and would serve in a great measure to identify it, aside from the slender form and distinctive coloration.

This appears to be the first definite record of the species.

TROPIDACRIS Seudder.

Tropidacris latreillei (Perty).

1830. *Acrydium Latreillei* Perty in Spix and Martius, Delect. Anim. Art., p. 123, pl. XXIV, fig. 4. [Amazon River.]

Tobago, West Indies. (B. Sharp.) [A. N. S. Phila.] One ♀.

Port of Spain, Trinidad. (Ernst T. Giers.) [U. S. N. M.] Two ♀.
Colon, Panama. (Wm. Lill.) [U. S. N. M.] One ♀.

This species has a broad blackish margin to the wings, the proximal portion of the margin being colored the same as the peripheral section, while the caudal tibiae are chiefly glaucous-green. True *Tropidacris dux* (Drury)³ from the Bay of Honduras appears to be the species which Pictet and Saussure have described as *Tropidacris cardinalis*, as shown by the general reddish color of the limbs and narrow black margin of the wings, both features distinctly indicated in Drury's description and figure.

It would seem from our present knowledge of the *dux-latreillei* group that there is a regular increase southward in the width of the blackish margin to the wings, the individuals from the northern section of the range of the group have the marginal band very narrow, those from the southern part of the range having it wide. The future may show the necessity of considering the various species allied to *dux* as mere geographic races.

Tropidacris cristata (Linnaeus).

Margarita Island, Venezuela. (Wirt Robinson.) [U. S. N. M.] Two ♀.

One of these specimens is larger than any of a number of mainland specimens examined by the author.

OPHTHALMOLAMPIS Saussure.

1859. *Ophthalmolampis* Saussure, Revue et Magasin de Zoologie, 2e ser., XI, p. 394.

Included *O. colibri* and *yersini* Saussure, of which the former has been designated as the type by Kirby.

Ophthalmolampis colibri Saussure.

1859. [*Ophthalmolampis*] (*Ophthalmolampis*) *colibri* Saussure, Revue et Magasin de Zoologie, 2e ser., XI, p. 394. [Guiana.]

Surinam. May to September. [Hebard Collection.] One ♀.

This individual undoubtedly belongs to Saussure's species, the peculiar type of coloration of the pronotum and tegmina being essentially as he describes. As the original brief description was based on a male, the female is here described.

Size medium; form robust; surface except that of the abdomen rugulose. Head broad, face slightly flattened; occiput rounded, hardly elevated dorsad of the level of the pronotum; fastigium narrow, the length not less than the greatest width, longitudinally sulcate;

³ *Illust. Exot. Ins.*, II, p. 82, pl. XLIV.

interocular space very narrow, less than half the width of the narrowest portion of the fastigium; interantennal portion of the frontal costa distinctly but not greatly produced, rounding into the fastigium, somewhat expanded, not sulcate or punctate, costa for a short distance dorsad and ventrad of the ocellus narrow and sulcate, costa not present ventrad of this portion; face rugoso-punctate, moderately retreating when viewed from the lateral aspect, lateral facial carinae not sharply defined, converging dorsad; eyes large, subovate, moderately prominent; antennae slightly shorter than the pronotum, thick, slightly depressed. Pronotum nearly twice as long as the exposed portion of the head, the greatest caudal width of the whole pronotum nearly equal to the length; cephalic margin slightly arcuate with a distinct but shallow median emargination, caudal margin rounded obtuse-angulate; three transverse sulci deeply impressed on the dorsum and the caudal two as distinctly indicated on the lateral lobes which they cross almost to the ventral margin; median carina absent, lateral carinae indicated only as raised welts which are traversed by all the sulci and bear a different coloring from the remainder of the pronotum, dorsum strongly and closely punctate; lateral lobes with the extreme dorsal length somewhat greater than the depth, ventral margin distinctly sinuato-emarginate cephalad, ventro-caudal angle broadly rounded. Tegmina about three times as long as the head, narrow, arched and overlapping, completely covered with numerous very small impressed areolae; costal margin straight except for a slight proximal expansion, sutural margin very slightly arcuate, apex obliquely rotundato-truncate, principal veins alone apparent. Wings reaching to the tips of the tegmina. Prosternal spine very short, thick, strongly transverse, blunt. Interspace between the mesosternal lobes slightly transverse and very slightly broader than the lobes themselves; interspace between the metasternal lobes trigonal, strongly narrowed caudad. Cephalic and median limbs rather short. Caudal femora about twice as long as the pronotum, robust, inflated, the greatest thickness being about two-thirds the depth, which latter is contained three times in the length, carinae serrato-dentate, particularly the medio-dorsal, pagina with a well-marked and regular pattern impressed by punctations, genicular extremity large, genicular lobes broad; caudal tibiae about four-fifths the length of the femora, armed on the external margin with seven spines, one of which is apical, and with six on the internal margin; tarsi about three-fourths the length of the tibiae, slender, second and third joints subequal and each longer than the first joint.

General colors bay and gamboge-yellow. A very broad bar of bay covers the whole occiput, the dorsum of the pronotum and two-thirds of the tegmina; this area being edged laterad on the occiput and pronotum with a narrow line of white; on the tegmina are placed two similar parallel white lines, the area between them being carmine and that between the innermost line and the bay color black; the costal edge of the tegmina is greenish vitreous. Dorsum of fastigium pomegranate-purple with a very narrow median line of pale color, front of fastigium pea-green; face dull olive-green sprinkled with reddish, area ventro-caudad of the eyes olive-green, a bar of white extending obliquely from the insertion of the antennæ to the ventro-cephalad angle of the pronotum; eyes mars brown; antennæ with the proximal joint pale, remainder black. Pronotum with the lateral lobes gamboge-yellow with a slight greenish tinge. Pleura, venter and abdomen similar in color to the lateral lobes of the pronotum, the dorsum of the abdomen bearing a broad median bar of pale liver-brown. Cephalic and median limbs similar in color to the lateral lobes of the pronotum, the median femora with a distinct maroon wash; tarsal joints distinctly greenish. Caudal femora very pale oil-green, the genicular region blackish except for a pure white spot on each genicular lobe, serrations on medio-dorsal carina black; caudal tibiæ oil-green with a pregenicular area and the sides of the genicular portion black, genicular angle touched with reddish, distal half of tibiæ blackish internally, french green externally, spines and spurs tipped with black; caudal tarsi very pale greenish, the two proximal joints washed with pinkish.

Measurements.

Length of body.....	26	mm.
Length of pronotum.....	6.8	"
Length of tegmen.....	12.5	"
Length of caudal femur.....	14.3	"

TÆNIOPHORA Stål.

1873. *Tæniophora* Stål, Recensio Orthopterorum, I, p. 34, 53.

Included *T. dentipes* and *geniculata* Stål, of which *dentipes* has been designated as the type by Kirby.

Tæniophora femorata Bruner.

1907. *Tæniophora femorata* Bruner, Biol. Cent.-Amer., Orth., II, p. 245. [Pozo Azul, Costa Rica.]

Chiriqui, Panama. [Hebard Collection.] One male.

This specimen agrees fully with the description of *femorata* except

for the coloration of the antennæ and the cephalic and median limbs, which instead of being dark olivaceous are dull ochraceous.

HENIA Giglio-Tos.

1898. *Henia* Giglio-Tos, Bollett. Mus. Zool. Anat. Comp. Torino, XIII, No. 311, pp. 45 and 55.

Type.—*Gryllus frenatus* Marschall.

Henia boliviana n. sp.

Type: ♀; Yungas de la Paz, Bolivia, altitude 1,000 meters. [Hebard Collection.]

Differing from the type species in some details of the coloration,

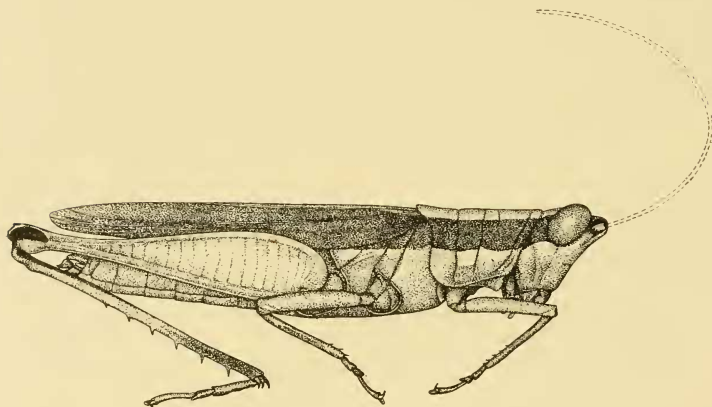


Fig. 5.—*Henia boliviana* n. sp. Lateral view of type. ($\times 4$.)

the larger size and proportionately longer caudal limbs, tegmina, and wings.

Size medium; form elongate; surface shiny. Head with its dorsal length slightly more than half that of the pronotum, dorsum slightly punctate, occiput hardly elevated, interocular region less than half the width of the fastigium and descending slightly from the occiput; fastigium acute with the lateral margins slightly arcuate, median carina distinct on the dorsum of the fastigium; fastigial angle truncate when viewed from the side, rounding into the decidedly retreating face; frontal costa narrow, not sharply defined, shallowly and narrowly sulcate ventrad of the ocellus, not sulcate dorsad;

eyes subovate, moderately prominent; antennæ filiform, about twice the length of the head and pronotum together. Pronotum rather narrow, the greatest dorsal (caudal) width contained nearly twice in the length; cephalic margin of the disk slightly arcuate, caudal margin considerably arcuate; median carina very weak, subobsolete on the metazona, transverse sulci three in number, of which only the caudal cuts the median carina; metazona one and one-half times the length of the prozona, slightly ascendant when seen from the side; lateral shoulders well rounded; lateral lobes distinctly longer than high, ventral margin obliquely sinuato-emarginate cephalad, broadly rounded caudad; entire disk and metazona of the lateral lobes punctate. Tegmina quite narrow, lanceolate, costal lobe very shallow, spurious intercalary vein present; apex very narrowly rounded. Prosternal spine distinctly compressed, moderately acute, with a distinct caudal trend. Interspace between the mesosternal lobes slightly transverse, the margins of the lobes strongly arcuate; metasternal lobes sub-attingent. Pleura with their dorsal portions punctate. Ovipositor jaws very short and thick, moderately compressed, teeth robust. Cephalic and median limbs slender, the median distinctly longer than the cephalic. Caudal femora slightly surpassing the tips of the tegmina, moderately slender, genicular lobes acute, surface glabrous, pattern of the pagina consisting of arcuate or arcuato-angulate lines; caudal tibiæ somewhat shorter than the caudal femora, distinctly sinuate, armed on the external margin with six spines, on the internal with nine, both margins with distinct low lamellate expansions on the distal half; caudal tarsi about half the length of the tibiæ, the proximal joint hardly shorter than the third, second joint less than half the length of the first; arolium small.

General colors yellow and black. Head with the dorsum of the fastigium, interocular region and occiput olive-yellow; front and sides of the fastigium and broad postocular bars shining black; face and genæ dull greenish-yellow, the latter clear gamboge-yellow



Fig. 6.—*Henia boliviana* n. sp.
Dorsal view of
head and pronotum of type.
($\times 4$.)

dorsad; eyes burnt umber. Pronotum with the dorsum olive-yellow, this area expanding caudad, continuations of the cephalic postocular bars shining black; ventral half of the lateral lobes similar to the genæ. Tegmina with the anal field clay color with a touch of greenish, remainder shining black. Venter and abdomen pale cinnamon. Pleura blackish dorsad, this area edged with gamboge-yellow. Cephalic and median femora dirty olive-yellow, the tibiæ and tarsi dull glaucous. Caudal femora gamboge-yellow, the genicular arches and area surrounding each of them shining black, genicular lobes very pale greenish; caudal tibiæ glaucous blue, the color deep on the distal half, spines whitish tipped with black.

Measurements.

Length of body.....	21.8 mm.
Length of pronotum.....	5 "
Length of tegmen.....	15.8 "
Length of caudal femur.....	13.8 "

The type specimen is the only one of the species examined.

COPIOCERA Burmeister.

Copiocera surinamensis n. sp.

Type: ♀; Surinam. [Hebard Collection.]

Closely allied to *C. specularis* and *lepida* Gerstaecker⁴ but differing

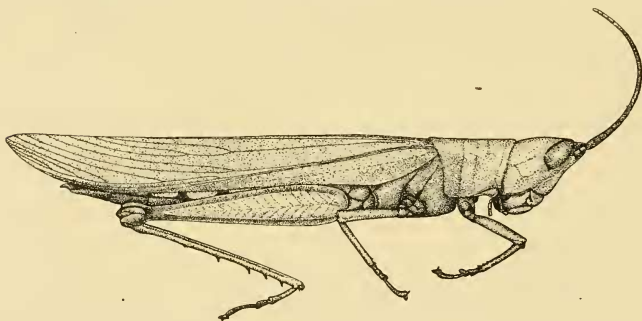


Fig. 7.—*Copiocera surinamensis* n. sp. Lateral view of type. (× 2.)

from both in the depressed proximal portion of the antennæ and the carmine internal faces of the femora; from *specularis* it also differs in the more acute fastigium, the more uniform size of the pronotal punctures and the smaller size and proportionately shorter wings;

⁴ Mittheil. Naturwissen. Ver. Neu-Vorpomm. Rügen, XX, pp. 34-35 (1889).

from *lepidus* it also differs in the dull olivaceous caudal tibiae and tarsi.

Size medium; form very elongate; surface of the pronotum and pleura scabroso-punctate, of the abdomen shiny. Head with the dorsal length about four-fifths that of the dorsum of the pronotum; occiput slightly arched, not elevated, interocular space nearly two-thirds the greatest width of the fastigium; fastigium acute-angulate, plane, angle when seen from the side rotundato-truncate; face very considerably retreating; frontal costa distinct only to a short distance ventrad of the ocellus, appreciably constricted immediately ventrad of the ocellus and faintly so dorsad of the same point, decidedly depressed within its margins; eyes elongate ovate, longer than the infraocular portion of the genæ, moderately prominent when viewed from the dorsum; antennæ distinctly but not greatly longer than the head and pronotum, somewhat ensiform, the expansion almost wholly in the five proximal joints, the distal half tapering almost imperceptibly, the apex somewhat blunt. Pronotum with the greatest caudal width of the disk contained one and two-thirds times in the length; cephalic margin truncate-arcuate, caudal margin very slightly obtuse-angulate, median carina present only on the metazona where it is but little elevated, transverse sulci three in number, metazona contained one and one-half times in the prozona; lateral lobes slightly longer than deep, ventral margin arcuato-emarginate cephalad, truncate caudad, caudal angle bluntly rectangulate. Tegmina about five times the length of the pronotum, subequal in width, the latter being about two-thirds the dorsal length of the pronotum; costal margin considerably arcuate in the distal third, sutural margin nearly straight, apex narrowly rounded; intercalary area without any longitudinal vein. Prosternal process transverse, constricted mesad, the apical portion somewhat compressed, subfusiform and the lateral processes blunt; interspace between the mesosternal lobes very narrow; metasternal lobes contiguous. Cephalic and median limbs short, rather slender. Caudal femora slightly more than half the length of the tegmina, compressed, rather regularly tapering, the greatest width contained about five and one-half times in the

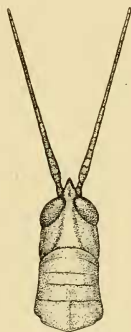


Fig. 8. — *Copiocera surinamensis* n. sp. Dorsal view of head and pronotum. ($\times 2$.)

length; caudal tibiae slightly shorter than the femora, external margins armed with five spines, of which the distal three are grouped separate from the others, internal margins with ten to eleven spines; caudal tarsi with the second joint slightly more than half the length of the first, third slightly longer than the first.

General color very dull olive-green, slightly yellowish on the head. Antennae and fastigium blackish, the distal fifth of the antennae cadmium-yellow; eyes raw umber. Abdomen chinese orange dorsad and laterad, the ventral and lateral portions of the inter-segmental margins of the dorsal sclerites broadly blackish, leaving the orange as semicircular blotches visible ventrad of the closed tegmina. Cephalic and median limbs washed with very dull purplish. Internal and ventral faces of the caudal femora very deep maroon-purple, internal face of the genicular region of the caudal femora and tibiae black, external face of the same area of the former with an apical and median spot on the lobes as well as the arches and dorsal portion of the same region cadmium-yellow; caudal tibiae dirty purplish-brown, the spines black.

Measurements.

Length of body.....	42.5 mm.
Length of pronotum.....	7 "
Length of tegmen.....	36.5 "
Length of caudal femur.....	19 "

The type is unique.

ZYGOCLISTRON Rehn.

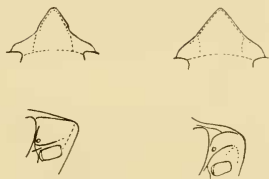
Zygoclistron acutum n. sp.

Type: ♀; Petropolis, State of Rio de Janeiro, Brazil. [Hebard Collection.]

Closely related to *Z. superbum* Rehn, but differing in the more acute fastigium, the less expanded and much more shallowly sulcate frontal costa, the more bullate prozona of the pronotum with the median carina of that portion weak, and in the caudal width of the interspace between the metasternal lobes being equal to the narrowest portion of the interspace between the mesosternal lobes, instead of distinctly wider as in *superbum*.

Size large, form moderately robust. Head with the occiput considerably arcuate, but little elevated, descending slightly to the interocular region which is slightly more than two-thirds the width of

fastigium; fastigium slightly declivent, the distal half acute-angulate when seen from the dorsum, shallowly excavate, angle of the fastigium when seen from the side rounded rectangulate; face slightly retreating; frontal costa regularly expanding to the clypeal suture, moderately excavate, the margins somewhat sinuate, face somewhat scabrous; eyes subovoid, slightly longer than the infra-ocular portion of the genæ, moderately prominent when seen from the dorsum.



Figs. 9-12.—Dorsal and lateral views of the fastigium of *Zygoclistron acutum* (at left, figs. 9-10) and *Z. superbum* (at right, figs. 11-12). ($\times 4$.)

Pronotum somewhat inflated on the prozona, deplanate on the metazona, slightly tectate on the prozona, the prozona somewhat elevated when seen in profile, the metazona being rather straight and slightly less elevated; dorsum of the pronotum slightly less than twice the dorsal length of the head, cephalic and caudal margins obtuse-angulate, the former with the angle sharp, the latter with it subtruncate and the sides of the angle slightly emarginate; caudal width of the disk slightly more than two-thirds the length; median carina distinct, rather high on the metazona, blunt, cut by three transverse sulci, the metazona slightly shorter than the prozona; lateral shoulders distinct on the metazona, well rounded on the prozona; lateral lobes distinctly longer than deep, the ventral margin with a slight oblique truncation cephalad; surface of the entire pronotum strongly scabroso-punctate. Tegmina three and a third times the length of the pronotum, reaching caudad of the tips of the femora; costal margins moderately arcuate proximad and distad, straight mesad, sutural margin nearly straight, apex rather narrowly rounded; intercalary area with no distinct intercalary vein. Prosternal spine somewhat compressed, slightly bulbous, and very much rounded longitudinally at the apex. Interspace between the mesosternal lobes distinctly longer than broad; metasternal lobes separated by a wedge-shaped interspace which at its narrowest point is subequal to the mesosternal interspace. Cephalic and median limbs moderately robust, rather short. Caudal femora falling slightly short of the tips of the ovipositor jaws, tapering, rather slender; caudal tibiæ with eight to nine spines on the external margin, internal margin with twelve spines considerably longer than those of the external margin.

Color pattern exactly as in *Z. superbum*, the colors themselves being the same with the following exceptions: yellow on dorsum of pronotum and anal area of tegmina duller and more ochraceous, darker markings on pronotum, more purplish-red, caudal femora distinctly speckled with olive-green.

Measurements.

Length of body.....	49.5 mm.
Length of pronotum.....	10.8 "
Greatest dorsal width of disk of pronotum.....	7.3 "
Length of tegmen.....	35.8 "
Length of caudal femur.....	23.2 "

The type specimen alone has been examined.

VILERNA Stål.

Vilerna rugulosa Stål.

Santa Catharina, Brazil. [Hebard Collection.] One ♀.

Rio Janeiro, Brazil. [Hebard Collection.] One ♀.

Espirito Santo, Brazil. [Hebard Collection.] One ♀.

The tegmina slightly exceed the tips of the caudal femora in the Santa Catharina specimen.

CALETODES Giglio-Tos.

1898. *Caletodes* Giglio-Tos, Bollett. Mus. Zool. Anat. Comp. Torino, XIII, No. 311, pp. 47, 58.

Type.—*C. alatus* Giglio-Tos (designated by Kirby).

Caletodes pulchripes n. sp.

Type: ♀; Balzapamba, Ecuador. (R. Haensch.) [Hebard Collection.]

Allied to *C. alatus* from Gualaquiza and Valley of Santiago, Ecuador, but differing in the structure of the frontal costa, the incised caudal angle of the pronotum and the rounded apex of the fastigium. From *C. festæ* Giglio-Tos from the Valley of Santiago, it differs in that the lateral carinae of the pronotum are much less apparent than the median, in the longer tegmina which are normal and not lateral in position, in the cylindrical prosternal spine and the lesser size.

Size medium; form rather robust; surface of head and pleura rugulose, of pronotum rugoso-tuberculate, dorsum of abdomen with numerous small irregular transverse wrinkles. Head with the dorsum about five-eighths the dorsal length of the pronotum; occiput considerably arcuate, distinctly but slightly elevated, descending

to the interocular space which is hardly more than half the greatest width of the fastigium, occiput to junction with fastigium bearing a

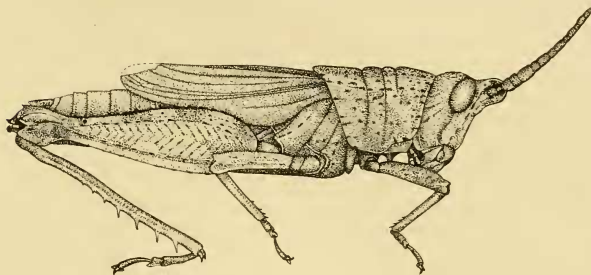


Fig. 13.—*Caletodes pulchripes* n. sp. Lateral view of type. ($\times 3$.)

distinct but rather irregular median carina; fastigium produced, blunt lanceolate when seen from the dorsum, the lateral margins subparallel proximad, the distal section regularly converging to the well-rounded apex, a pair of irregular lateral carinae are present on the proximal portion, the entire surface of the dorsum of the fastigium concavely excavate, when seen from the side the angle of the fastigium is seen to be rounded rectangular dorsad, the ventral section of the process strongly arcuate and curving into the slightly retreating face, the proximo-dorsal half of the fastigium horizontal, the distal half considerably declivent; frontal costa extending to the clypeal suture, distinctly excavate, considerably constricted ventrad of the ocellus; accessory facial carinae very slightly divergent ventrad; eyes very slightly reniform in shape, subequal to the infra-ocular portion of the genae, moderately prominent when viewed from the dorsum; antennae equal to the pronotum and half the length of the head, ensiform, the segments distinct, flattened, subtriangular in section, the length of the segments beyond the fourth usually alternates short and long, apex blunt. Pronotum with the length

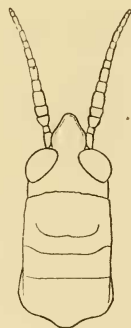


Fig. 14.—*Caletodes pulchripes* n. sp. Dorsal outline of head and pronotum. ($\times 3$.)



Fig. 15.—*Caletodes pulchripes* n. sp.
Outline of face.
($\times 4$.)

one and two-thirds times that of the head, the greatest caudal width of the disk contained about one and one-half times in the length; cephalic margin subtruncate, caudal margin obtuse-angulate, the apex very blunt and obtusely incised, the margins somewhat sinuate; median carina distinct but low and somewhat irregular, cut by three transverse sulci, the caudal the deepest and widest, metazona about three-fourths the length of the prozona; lateral carinae formed only of blunt tubercles and but little apparent except caudad where they are represented by rounded shoulders; lateral lobes longer than deep, cephalic

and caudal margins obliquely converging, ventral margin with a considerable sinuate emargination cephalad; dorsal outline of the pronotum very slightly arched on the cephalic portion of the prozona, straight on the remainder of the pronotum. Tegmina slightly longer than the head and pronotum together, attingent and overlapping dorsad, tapering in the distal two-thirds, costal margin with a considerable proximal lobe, nearly straight thence to the apex, sutural margin very slightly arcuate proximad; intercalary area with a distinct intercalary vein. Prosternal spine erect, regularly tapering, apex slightly blunted; interspace between the mesosternal lobes very slightly transverse; interspace between the metasternal lobes with its caudal width only about half that between the mesosternal lobes. Ovipositor jaws short and thick, the proximal portions of the margins blunt serrate. Cephalic and median limbs moderately robust. Caudal femora about twice the length of the pronotum, robust, the margins distinctly serrate, the pagina distinctly patterned, the ridges with numerous asperities, genicular lobes rounded; caudal tibiae slightly shorter than the femora, slightly but very noticeably decurved proximad, external margin with seven spines, internal with nine; caudal tarsi with the proximal and distal joints subequal, arolium present.

General color bistre, washed very irregularly and not at all strongly with drab, asperities on the pronotum, limbs and spotting on facial carinae blackish; eyes mummy-brown; caudal femora with a spot on the ventro-median portion of the lateral face cinnamon, internal face washed with carmine, interno-ventral with crimson, the dorsal face with traces of three cinnamon bands, the distal of which is an imperfect annulus, genicular arches and internal genicular face

clay color; caudal tibiæ crimson, the external face with some of the general color and an imperfect pale pregenicular annulus also present, spines ochraceous tipped with black.

Measurements.

Length of body.....	27	mm.
Length of pronotum.....	6.7	"
Length of tegmen.....	12	"
Length of caudal femur.....	13.2	"

The type is unique.

SAPARUS Giglio-Tos.

1898. *Saparus* Giglio-Tos, Bollett. Mus. Zool. Anat. Comp., XIII, No. 311, pp. 47, 60.

Type.—*Saparus æquatorialis* Giglio-Tos.

Saparus æquatorialis Giglio-Tos.

1898. *S[aparus] æquatorialis* Giglio-Tos, Bollett. Mus. Zool. Anat. Comp., XIII, No. 311, p. 61. [Valley of Santiago, Ecuador.]

Piches and Perene Valleys, 2,000 to 3,000 feet, Peru. (Soc. Geog. de Lima.) [U. S. N. M.] One ♂, one ♀.

The male individual here recorded is slightly smaller than the type measurements given by Giglio-Tos.

As the female sex was hitherto unknown, a few notes are here given from the specimen in hand.

The eyes are less prominent in the female than in the male, while the head is broader proportionately at the base of the mandibles. The lateral facial carinæ are much more divergent in the female, while the structure of the fastigium and frontal costa is about the same in both sexes. The interspace between the mesosternal lobes is slightly longitudinal in the male, subquadrate in the female, while the metasternal lobes are separated by a very narrow space in the male and by a considerable transverse interspace in the female. The face and mouth parts of the male are very pale ochraceous, distinctly contrasted with the general coloration.

Measurements.

	♂	♀
Length of body.....	26 mm.	38 mm.
Length of dorsum of pronotum.....	5 "	7 "
Length of tegmen.....	27.5 "	29 "
Greatest width of tegmen.....	4.5 "	6.5 "
Length of caudal femur.....	16 "	20.8 "

ANTIAPHANES Stål.

1878. *Antiaphanes* Stål, Bihang till K. Svenska Vet. Akad. Handlingar V, No. 4, p. 35.

Type.—*Ommatolampis nodicollis* Burmeister.

Antiphanes nodicollis (Burmeister).

1838. *Ommatolampis* *nodicollis* Burmeister, Handb. der Entom., Bd. II, Abtheil. II, pt. I, p. 637. [Brazil.]

Minas Geraës, Brazil. 1897. [Hebard Collection.] One ♀.

With only Burmeister's very brief description to furnish one the characters of the species, it is somewhat difficult to decide whether the specimen in hand is his species or not. Burmeister describes the genicular regions, caudal tibiae and tarsi as sanguineous, while in the Minas Geraës individual only the tarsi and distal half of the tibiae are of that color, but this may possibly be due to the fact that the original specimen was a male. Until further evidence is at hand, it seems preferable to use Burmeister's name for the specimen before us.

OMMATOLAMPIS Burmeister.

1838. *Ommatolampis* Burmeister, Handbuch der Entom., Bd. II, Abtheil. II, pt. I, p. 636.

Type designated by Kirby—*O. perspicillata* (Johansson).

Ommatolampis perspicillata (Johansson).

1763. *Gryllus perspicillatus* Johansson, Amoen. Acad., VI, p. 398. ["Indis."]

Surinam. [Hebard Collection.] One ♂, one ♀.

Ommatolampis palpata Stål.

1878. [*Ommatolampis*] *palpata* Stål, Bihang till K. Svenska Vet.-Akad. Handl., V, No. 4, p. 81. [Peru.]

Piches and Perene Valleys, 2,000–3,000 feet elevation, Peru. (Soc. Geog. de Lima.) [U. S. N. M.] One ♀.

This record appears to be the first since the description of the species.

The measurements of the specimen are as follows:

Length of body.....	34	mm.
Length of pronotum.....	6.5	"
Greatest caudal width of pronotum.....	7.8	"
Length of tegmen.....	1.5	"
Length of caudal femur.....	22.3	"

OULENOTACRIS n. gen.⁵

A member of the *Nicarchi* and related to *Anablysis* Gerstaecker, but differing in the lesser number of antennal joints and the absence of any prominent tubercles on the pronotum. The new genus also possesses a heavy robust structure quite different from *Anablysis*.


Fastigium subrectangulate, a slight median longitudinal depression present, interantennal projection distinct, but not greatly con-

⁵ὀυζή, cicatrice; νωτοί, back; ακρίς, locust.

spicuous; frontal costa punctate dorsad, sulcate ventrad; eyes prominent; antennæ fifteen-jointed. Pronotum punctate, with no prominent lobes or carinæ, transverse sulci well impressed. Tegmina exceeding the apex of the abdomen, narrow, tapering. Interspaces between the mesosternal and metasternal lobes subquadrate. Ovipositor jaws short and thick. Caudal limbs robust, femora with the margins finely serrate; external margin of the tibiæ with six spines, no apical external spine present; tarsi with the first and third joints subequal, second about half the length of the first.

Type—*O. robusta* n. sp.

Oulenotacris robusta n. sp.

Type: ♀; Surinam. May–September. [Hebard Collection.] 

Size moderately small; form very robust; surface of pronotum, pleura, face and dorsal face of the femora punctate. Head with the dorsal length about three-fifths that of the pronotum; occiput very slightly arched, descending appreciably to the interocular region which is about equal in width to half that of the fastigium; fastigium slightly broader than long, rectangulate with the apex truncate, dorsum with a distinct but very slight longitudinal line; fastigial process moderately protuberant when seen from the side, rotundato-truncate, face slightly retreating; frontal costa broadest between the antennæ, distinctly constricted ventrad of the ocellus and toward the sutural margin, not very deeply sulcate around and ventrad of the ocellus, punctate dorsad; supplementary facial carinæ prominent, subparallel; no distinct lateral foveolæ; eyes subreniform ovate, distinctly longer than the infra-ocular sulcus, very prominent from both aspects; antennæ about equal to the head and pronotum in length, thick, slightly depressed, blunt. Pronotum with the greatest width of the disk, about four-fifths the length of the same; cephalic margin gently arcuate

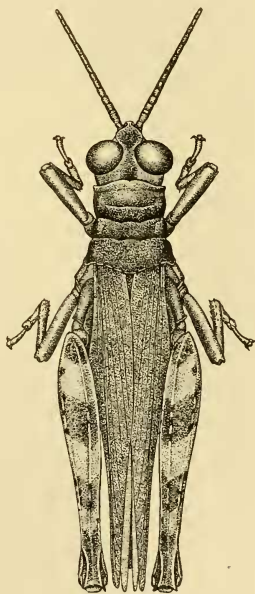


Fig. 16.—*Oulenotacris robusta* n. sp. Dorsal view of type. ($\times 3$.)

with a very broad and shallow median emargination, caudal margin obtuse-angulate; median carina very faintly indicated on the metazona and the cephalic half of the prozona, absent elsewhere; transverse sulci distinct, the caudal very deep on the median portion of the dorsum; disk almost flat, lateral angles rounded but apparent; lateral lobes slightly longer than deep, the ventro-cephalic angle broadly excised by a deep emargination. Tegmina distinctly exceeding the apex of the abdomen and slightly exceeding the tips of the caudal femora, tapering, distal third narrow with the apex narrowly rounded; costal margin with a distinct but shallow lobe;

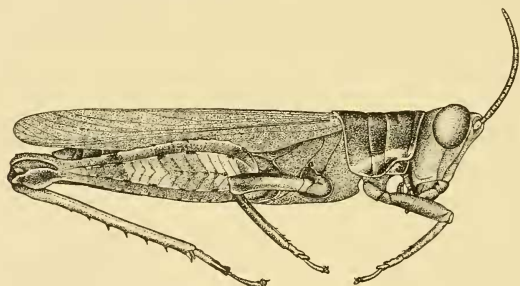


Fig. 17.—*Oulenotacris robusta* n. sp. Lateral view of type. ($\times 3$.)

intercalary vein distinct, at least distad. Prosternal spine very short and low, subconoid; interspace between the mesosternal lobes transverse; interspace between the metasternal lobes subquadrate, the cephalic width (*i.e.*, that between the foveolæ) greater than the caudal. Abdomen with the ovipositor jaws distinctly compressed and short. Cephalic and median limbs of medium size. Caudal femora robust, the greatest width contained about three and a half times in the length; medio-dorsal carina moderately serrate, pagina with the pattern distinct and regular, genicular lobes with the ventral margin emarginate distad; caudal tibiae distinctly shorter than the femora, armed on the external margin with six spines, internal margin with eight to nine spines, no apical spine present on the external margin; caudal tarsi about half the length of the tibiae, third joint slightly longer than the first, second about half the length of the first, arolia of medium size.

General color bistre, more olivaceous on the dorsum and the greater area of the later portion of the metazona. Occiput, face and mouth parts with quite a little dull yellowish mingled with the general color; genæ soiled yellowish, this being continued on the

lateral lobes of the pronotum by an obliquely defined ventral patch of chrome-yellow; facial carinæ dashed with blackish. Eyes tawny-olive; antennæ olive. Dorsal portion of the lateral lobes of the pronotum washed with dull claret-brown. Tegmina with numerous small quadrate areas of wood-brown on the general color. Disk of the wings lemon-yellow. Pleura with a broken continuation of the yellow pronotal bar and an additional dash of dull yellowish bordered by dull blackish. Venter raw umber; dorsum of the abdomen prout's brown, median area of the lateral aspect of the proximal segments shining blackish. Cephalic and median femora burnt umber and blackish. Caudal femora vinaceous, rufous dorsad, ecru-drab on the ventral portion of the pagina, maroon on the externo-ventral face, carmine on the internal face, two indistinct oblique bars are present, seal-brown in color, but occasionally touched with greenish, genicular region dark clay color; caudal tibiæ very dull purplish on the internal face, very dull olive-green on the external face, a broad poorly defined proximal area pale, spines pale yellow tipped with black.

Measurements.

Length of body.....	23	mm.
Length of pronotum.....	5.2	"
Length of tegmen.....	17.5	"
Length of caudal femur.....	13.2	"

The type is unique.

SITALCES Stål.

1878. *Sitalces* Stål, Bihang till K. Svenska Vet. Akad. Handlingar, V, No. 9, p. 16.

Type designated by Kirby—*S. volxemi* Stål.

Sitalces balzapambæ n. sp.

Type: ♂; Balzapamba, Ecuador (R. Haensch.) [Hebard Collection.]

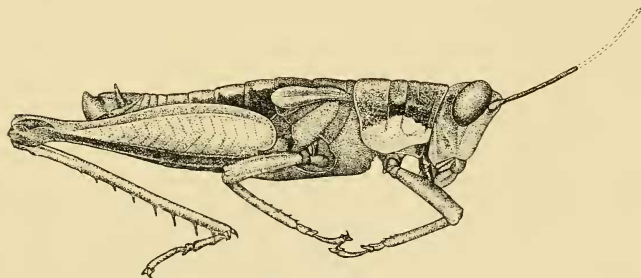


Fig. 18.—*Sitalces balzapambæ* n. sp. Lateral view of type. (× 4.)

Allied to *S. trinitatis* Bruner, with a specimen of which it has been compared, but differing in the less prominent eyes, the broader interspace between the same, the more tectate dorsum of the pronotum, the broader and differently shaped distal portion of the tegmina and very different character of the apex of the abdomen.

Size small; form slightly compressed, a distinct median carina present from the cephalic margin of the dorsum of the pronotum to the apex of the abdomen, the dorsum for this reason being tectate; surface of the thoracic segments, dorsum of the head and to an extent of the limbs ruguloso-punctate. Head with its dorsal length three-fifths that of the pronotum in the male, half the length of the same in the female; occiput distinctly arcuate and provided with a pair of converging irregular channels; interocular space about half the greatest width of the fastigium, provided with a shallow but distinct sulcus which extends to the fastigial margin; fastigium distinctly broader than long, rounded rectangulate, very slightly acute in the male, the immediate angle subtruncate, surface with a pair of rather low parallel ridges flanking the central sulcus, margins with a distinctly elevated rim; fastigial process slightly protuberant when seen from the side, subtruncate, forming an appreciable angle with the dorsum of the fastigium and gently curving ventrad into the slightly retreating face; frontal costa continuous, very slightly expanding ventrad of the ocellus, punctate dorsad, sulcate from between the antennæ ventrad; supplementary facial carinæ

slightly sinuate and slightly divergent ventrad; areas usually occupied by the lateral foveolæ strongly punctate; eyes elliptical, longer and narrower in the female than in the male, length very considerably more than that of the infra-ocular portion of the genæ, distinctly prominent in both sexes. Pronotum with the greatest caudal width of the disk contained one and one-quarter (σ) to one and one-third (φ) times in the length of the disk, distinctly tectate; cephalic margin slightly arcuate, caudal margin rotundato-truncate with a well-marked median V-shaped emargination which is less pronounced in the female than in the male; median carina distinct, subequal, cut by three transverse sulci, metazona about half the length of the prozona; lateral angles not at all strongly marked, slightly converg-



Fig. 19.—*Sitalces balzapambæ* n. sp.
Dorsal outline of head and pronotum of type.
($\times 4$.)

lateral angles not at all strongly marked, slightly converg-

ing to the first transverse sulcus, then regularly but not greatly diverging caudad; lateral lobes distinctly longer than deep, the cephalic portion of the ventral margin obliquely emarginate, caudo-ventral angle very broadly rounded. Tegmina in both sexes slightly surpassing the caudal margin of the metanotum, slightly curved ventrad with the greatest width at the distal third, apex rounded. Prosternal spine erect, conical, not very sharp; interspace between the mesosternal lobes moderately transverse; interspace between the metasternal lobes of the usual key-stone shape, much narrower than that between the mesosternal lobes. Ovipositor jaws of the female very slightly compressed, the dorsal pair subequal in depth in the proximal half; supra-anal plate of the male acute trigonal; cerci of the male styliform, reaching about to the apex of the supra-anal plate; subgenital plate with the apex not elevated above the general dorsal margin of the plate, rounded when seen from the dorsum. Cephalic and median limbs proportionately more robust in the male than in the female. Caudal femora moderately robust in the male, weaker and smaller proportionately in the female, exceeding the apex of the abdomen in both sexes, pagina with the pattern rather coarse but regular and distinct, medio-dorsal carina finely serrulate; caudal tibiae slightly shorter than the femora, armed on the external margin with eight spines, on the internal with nine spines; caudal tarsi with the third joint appreciably longer than the first.

General color in the female drab, sprinkled, lined and dotted with blackish, in the male isabella color marked in the same fashion. An area along the median line of the body almost clear base color in the male, the sides of the proximal two-thirds of the abdomen shining black in both sexes, this area being more extended dorsad in the male. Head with the face Naples yellow in the male, dull orange-buff in the female, dull blackish around the bases of the antennae; occiput and cheeks prout's brown in the male, vandyke brown in the female; eyes pale tawny-olive in the male, walnut-brown in the female. Pronotum with the dorsal portion of the lateral lobes dark, median carina blackish, particularly in the male; ventral half of the lateral lobes the same color as the face, limited dorsad by an obtuse angulate patch of blackish. Tegmina prout's brown in the male, walnut-brown in the female. Venter of the abdomen primrose-yellow in the male, raw umber in the female, provided in each sex with a medio-longitudinal shining blackish-brown bar reaching to the margin of the subgenital plate; sternal plates mottled

blackish and primrose-yellow (♂) or blackish and raw umber (♀). Cephalic and median limbs of the general colors. Caudal limbs broccoli-brown in the male, chocolate-brown in the female, the dorsal surface at about two-fifths the distance from the base provided with a velutinous black spot, internal face blue-black, ventral faces very deep bottle-green; caudal tibiae glaucous, paler in the male, the spines yellowish with the apical half black.

Measurements.

	♂	♀
Length of body.....	17 mm.	20.4 mm.
Length of pronotum.....	3.8 "	4.4 "
Length of tegmen.....	3.5 "	4 "
Length of caudal femur.....	10.6 "	12 "

In addition to the male type, we have before us a female allotype, the differential characters of which are included in the above description.

Sitalces debilis n. sp.

Type: ♀; Rosario, Santa Inéz, 1,250 meters, east of the Andes.⁶ October 31, 1899. [Hebard Collection.]

Belonging to the section *a* of the genus as described by Stål,

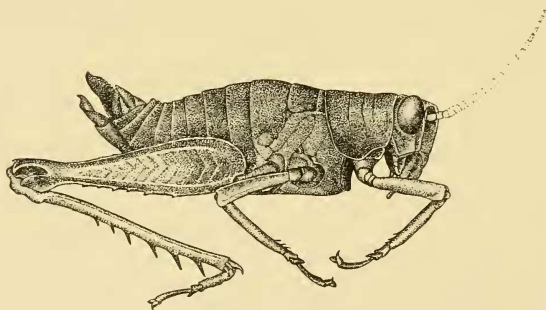


Fig. 20.—*Sitalces debilis* n. sp. Lateral view of type. (× 3.)

but not closely related to either of the two species there described or the more recently characterized *S. nudus* Bruner.

Size rather small; form robust, subfusiform; surface almost

⁶The locality for this species is in every probability Rosario, Gualaquiza Valley, basin of the Río Marañón, Ecuador.

entirely rugoso-punctate. Head with the dorsal length nearly three-fifths that of the pronotum; occiput slightly arched, not elevated, perceptibly descending to the interocular region, the interspace being very narrow, hardly more than a fourth the greatest fastigial width, not regularly narrowing, but of subequal width for some short distance; fastigium transverse, slightly obtuse-angulate with the apex subtruncate, the fastigial margins with a slight rim, the surface of the fastigium slightly impresso-punctate; fastigial process when seen from the side not projecting beyond the line of the face, the latter being but very slightly retreating, the fastigio-facial angle very slightly rounded; frontal costa absent on the ventral portion of the face, appreciably but not greatly narrowed dorsad and ventrad, irregularly sulcate around the ocellus, deeply punctate dorsad; lateral foveolar areas punctate; supplementary facial carinae considerably divergent caudad; eyes elliptical, very distinctly longer than the infra-ocular portion of the genae, moderately prominent when viewed from the dorsum. Pronotum rounded transversely, hardly tectate, the length slightly shorter than the greatest caudal width; cephalic margin subtruncate, caudal margin truncate with a broad, shallow median emargination; median carina distinct cephalad and caudad, very weak mesad, transverse sulci three in number, prozona nearly twice the length of the metazona; lateral lobes of the pronotum not separated from the dorsum by distinct angles or carinae, rounding regularly into the vertical lobes, longer than deep, cephalic and caudal margins somewhat sinuate, ventral margin with a pronounced ventro-cephalic emargination, obtuse-angulate caudad. Mesonotum and metanotum very broadly obtuse-angulate emarginate, the metanotum with the angle more apparent than the mesonotum. Tegmina and wings absent. Prosternal spine rather small, conical, acute; interspace between the mesosternal lobes slightly transverse; interspace between the metasternal lobes smaller than the mesosternal interspace, slightly transverse. Abdomen moderately compressed, keeled; dorsal ovipositor jaws with their external margin very bluntly serrate. Cephalic and median limbs rather slender. Caudal femora about three times as long as the pronotum, tapering, the medio-dorsal carina serrate, the ventro-



Fig. 21.—*Sitalces debilis* n. sp.
Dorsal outline of head and pronotum of type.
($\times 3$.)

lateral sparsely serrato-dentate with a weaker serration between the higher ones, pagina regularly patterned, ventral margin of the genicular lobes sinuate; caudal tibiae very slightly shorter than the femora, distinctly sinuate, armed on the external margin with six spines, on the internal margin with six to seven; caudal tarsi with the proximal joint distinctly shorter than the third, second hardly half the length of the proximal one.

General color olive, blackish-brown on the ventral surface, the face, cheeks and dorsal portion of the mouth parts isabella color; eyes cinnamon cephalad, raw umber caudad. Caudal femora pale tawny-olive, the dorsal surface entirely washed with the same, genicular arches blackish-brown, ventral sulcus dark bottle-green; caudal tibiae dull olive-green, the spines french green with their distal halves black.

Measurements.

Length of body.....	20	mm.
Length of pronotum.....	4	"
Length of caudal femur.....	13	"

The type is unique.

SCHISTOCERCA Stål.

Schistocerca ægyptia (Thunb.).

1815. *Gryllus* *ægyptius* Thunberg, Mém. l'Acad. Imp. Sci. St. Pétersb., V, p. 247. [St. Bartholomew, West Indies.]

St. Thomas, Danish West Indies. December, 1882. A. Koebele. [U. S. N. M.] One ♂.

When compared with a male of *ægyptia* from Culebra Island, the St. Thomas specimen is seen to differ structurally only in the slightly shorter caudal femora. The coloration of the St. Thomas individual has in a great measure been effaced by the preservative in which the specimen was immersed, but the pattern, as it remains, is essentially the same as in the Culebra representative.

Schistocerca vaga brevis n. subsp.

Types: ♂ and ♀; Clarion Island, Pacific Ocean, S. W. of Cape San Lucas, Lower California. (Dr. G. Baur.) [U. S. N. M.]

This is an extremely interesting short-winged form of the rather widely spread *S. vaga*, immediately distinguishable by the short tegmina and wings which very slightly surpass the tips of the caudal femora. The typical series of five, one male and four females, has been immersed in a liquid preservative and in consequence the coloration and to a certain extent minor structural characters can hardly be considered to furnish diagnostic characters.

On comparison with a series of *vaga* from a number of localities, the Clarion Island series is seen to be practically identical except for the short tegmina and wings. In view of the uniformity of this character in all of the five specimens, we deem it best to consider the Clarion Island form at least a geographic subspecies, limited as far as known to Clarion Island. It is quite curious to note that typical *vaga* is found on Guadelupe Island off the west coast of Lower California, in fact, that island was one of the original localities, and from the measurements given by Scudder it will be seen that the specimens were of the normal long-winged type. The distance of Guadelupe Island from the nearest portion of the mainland, *i.e.*, Lower California, is about one hundred and seventy miles, while Clarion Island is about four hundred and thirty-five miles from Cape San Lucas, the nearest mainland point. The difference in distance may possibly account for the difference in wing length by the hypothesis that *vaga* regularly flies to and fro between Guadelupe Island and the mainland, and the resident brood is recruited by new arrivals and produces, through the influence of new blood and the presence thereby of a comparatively active migratory influence, generations in which the wings are very powerful. On the other hand, Clarion Island was probably colonized by stray migrants, and from these has evolved a short-winged type through isolation and lack of use for the wings except in a restricted area. While we are unaware of the presence of *S. vaga* on the Revillagegedo Islands, the species, and possibly subspecies, may occur there, the nearest one of the group, Roca Partida, being one hundred and forty miles distant from Clarion Island.

The measurements of the types of *Schistocerca vaga brevis* are as follows:

	♂	♀
Length of body.....	30.5 mm.	43 mm.
Length of pronotum.....	7 "	9.5 "
Length of tegmen.....	24.5 "	33.5 "
Length of caudal femur.....	19.2 "	24.5 "

Schistocerca æqualis Scudder.

1899. *Schistocerca æqualis* Scudder. Proc. Amer. Acad. Arts and Sci., XXXIV, p. 458. [Demerara, British Guiana.]

Caracas, Venezuela. (Dr. A. Ernst.) [U. S. N. M.] One ♀.

This species is quite difficult to distinguish in the female sex from the allied *S. desiliens* Scudder, but the color of the caudal tibiae, *i.e.*, varying shades of glaucous in *æqualis* and reddish in *desiliens*, appears to be a convenient character by which to separate specimens.

In the male sex the form of the cerci, tapering and very narrowly rounded in *desiliens* and subequal and subtruncate in *aqualis*, is a fairly satisfactory clue to the species. The cerci in the three males available for study have the apical angular emargination described by Scudder extremely slight and hardly perceptible.

Six individuals, three of each sex, have been examined, those in addition to the Caracas specimen being from Demerara and Bartica, British Guiana.

Schistocerca peregrina (Olivier).

1804. *Acridium peregrinum* Olivier, Voyage l'Emp. Othoman, II, p. 425. [Egypt; Arabia; Mesopotamia; Persia.]

Venezuela. [U. S. N. M.] One ♀.

This specimen has been compared with undoubted specimens of *S. peregrina* received from the late Dr. Saussure.

Schistocerca paranensis Burmeister.

1861. *Acridium paranense* Burmeister, Reise durch La Plata-Staaten, I, p. 491. [La Plata country; Paraná; Entre Rios.]

Medellin, Antioquia, Colombia. 1879. (Thos. Herran.) [U. S. N. M.] One ♂, two ♀.

Caracas, Venezuela. (Dr. A. Ernst.) [U. S. N. M.] Three ♂, seven ♀.

Berbice, British Guiana. September 6, 1886. (J. J. Quelch.) [U. S. N. M.] Two ♂, three ♀.

From the specimens recorded above it is evident that this migratory and destructive locust is at times present in northern South America, and from data with the Caracas series it seems that it appears in considerable assemblages. Dr. Ernst's remarks are to the effect that the species "invaded" the region "from September, 1882, to January, 1883," and he also states the "flight was to the northeast and at a height of about twenty feet from the ground."

There is in this series a very considerable amount of variation in size in individuals of both sexes. A number of specimens of the female sex are no larger than several of the Caracas males.

AIDEMONA Brunner.

Aidemona azteca (Saussure).

Western Colombia. [Hebard Collection.] One ♀.

This specimen is not separable from females of the States of San Luis Potosi and Vera Cruz, Mexico. The range of the species is here extended some distance south of the previously known southern limit of the species.

DICHROPLUS Stål.**Dichroplus peruvianus** Stål.

1878. *P[ezotettix]* (*Dichroplus*) *peruvianus* Stål Bihang till K. Svenska Vet.-Akad. Handl., V, No 9, p. 7. [Peru.]

Piches and Perene Valleys, 2,000-3,000 feet, Peru. (Soc. Geog. de Lima.) [U. S. N. M.] Two ♂, one ♀.

Yungas de la Paz, 1,000 meters, Bolivia. [Hebard Collection.] One ♂ and one ♀ in coitu, one additional ♀.

Dichroplus amœnus (Stål).

1878. *P[ezotettix]* (*Dichroplus*) *amœnus* Stål, Bihang till K. Svenska Vet. Akad. Handl., V, No. 9, p. 8. [Peru.]

Minas Geraës, Brazil. 1897. [Hebard Collection.] One ♀.

This specimen is more greenish than was the case with the type or types and the tegmina appear more acuminate than originally described.

Bruner has recorded this species from Cordoba, Argentina.